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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *October 12, 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

- Applicant's Amendment filed October 12, 2007 is acknowledged.

- **Claims 1, 3, 5 and 15** were amended.

- Examiner's Rejection to **Claims 1-19** is not withdrawn.

1. **Claims 1-19** are rejected under 35 U.S.C. 102 (b) as being anticipated by Grimwood et al. (Pub. No.: US 2001/0033611 A1)

Regarding Claims 1 and 3, Grimwood et al. discloses a method (method, Title, line 1) and apparatus (Fig. 6 CU, CMTS) for maintaining synchronization in a communication system wherein a central entity transmits a signal containing timing information to one or more remote devices, the one or more remote devices using the timing information for scheduling transmissions (Fig. 6, 256, Sync message includes sample of timestamp and CMTS sends sync message; transmitting timestamp data downstream from the CU allow the RUs to align their upstream frame to the CU upstream frame, paragraph [0082], page 7, lines 2-5), the method comprising:

synchronizing a first symbol clock (CU master chip clock, paragraph [0004], page 1, line 7) and a second symbol clock (downstream chip clock, paragraph [0004], page 1, line 6) (synchronizes the downstream and the upstream clocks, paragraph [0080], page 7, lines 1-2);

transmitting a first signal to the one or more remote devices, wherein the first signal includes timing information based on the first symbol clock (transmission of barker codes from

the CU to RUs include chip clock, paragraph [0004], page 1, lines 1-6) and data having a first

forward error correction (FEC) alignment (timestamp message encapsulated into forward error

correction frames in MCNS downstream, paragraph [0134], page 13, lines 1-4); and

upon termination of transmission of the first signal to the one or more remote devices

(Fig. 7, 302, process looks and waits for message to arrive), transmitting a second signal (Fig. 7,

305, second message with timebased conversion factor) to the one or more remote devices,

wherein the second signal includes timing information based on the second symbol clock (down

stream bar codes were encoded to include the downstream chip clock so that all the RUs could

synchronize to the CU master chip clock, paragraph [0004], page 1, lines 5-7) and data having a

second FEC alignment (data frames are broken down into packets and sent downstream in a

continuous stream after FEC encoding, paragraph [0005], page 1, lines 3-6) that is synchronized

with the first FEC alignment.

Regarding Claim 5, Grimwood et al. discloses a method (method, Title, line 1) for maintaining

synchronization in a communication system (communicating system, Abstract, line 1) wherein a

central entity (central unit, Abstract, line 4) transmits a signal containing timing information to

one or more remote devices, the remote devices using the timing information for scheduling

transmissions (transmitting timestamp data downstream from the CU allow the RUs to align their

upstream frame to the CU upstream frame, paragraph [0082], page 7, lines 2-5), the method

comprising:

synchronizing a first symbol clock (CU master chip clock, paragraph [0004], page 1, line

7) and a second symbol clock (downstream chip clock, paragraph [0004], page 1, line 6)

(synchronizes the downstream and the upstream clocks, paragraph [0080], page 7, lines 1-2);

transmitting a first signal to the one or more remote devices, wherein

the first signal includes timing information based on the first symbol clock (transmission of

barker codes from the CU to RUs include chip clock, paragraph [0004], page 1, lines 1-6) and

data having a first forward error correction (FEC) alignment (FEC) alignment (timestamp

message encapsulated into forward error correction frames in MCNS downstream, paragraph

[0134], page 13, lines 1-4);

generating a second signal that includes timing information based on the second symbol

clock (down stream bar codes were encoded to include the downstream chip clock so that all the

RUs could synchronize to the CU master chip clock, paragraph [0004], page 1, lines 5-7) and

data having a second forward error correction (FEC) alignment (data frames are broken down

into packets and sent downstream in a continuous stream after FEC encoding, paragraph [0005],

page 1, lines 3-6);

transmitting calibration information relating to a difference between the first FEC

alignment and the second FEC alignment (Fig 10, 320; Fig.11, 360) to the one or more remote

devices; and

upon termination of transmission of the first signal (Fig. 7, 302, process looks and waits

for message to arrive) to the one or more remote devices (transmission of barker codes from the

CU to RUs include chip clock, paragraph [0004], page 1, lines 1-6), transmitting the second

signal to the one or more remote devices (down stream bar codes were encoded to include the

downstream chip clock so that all the RUs could synchronize to the CU master chip clock,

paragraph [0004], page 1, lines 5-7).

Regarding Claim 7, Grimwood et al. discloses the method of claim 5, further comprising:

generating the calibration information, wherein generating the calibration information comprises

generating first calibration data by comparing the first FEC alignment to a reference FEC

alignment (Figs. 9, 10, Tables 1, 2) and generating second calibration data by comparing the

second FEC alignment to the reference alignment (Figs. 9, 10, Table 1, 2).

Regarding Claims 9, 12 and 15, Grimwood et al. discloses a method (method, Title, line 1) and

apparatus (Fig. 6 CU, CMTS) in a communication system (communicating system, Abstract, line

1), the apparatus comprising:

a first transmitter (Fig. 13, transmitter is intended to operate in the CU upstream or

downstream, paragraph [0220], page 22, lines 7-9) adapted to transmit a first signal to one or

more remote devices, wherein the first signal includes first timing information based on a first

symbol clock (transmission of barker codes from the CU to RUs include chip clock, paragraph

[0004], page 1, lines 1-6) and first data having a first forward error correction (FEC) alignment

(timestamp message encapsulated into forward error correction frames in MCNS downstream,

paragraph [0134], page 13, lines 1-4);

a second transmitter (SCDMA RU transmitter, paragraph [0017], page 2, lines 1-2)

adapted to transmit a second signal to the one or more remote devices in response to the first

transmitter terminating transmission of the first signal, wherein the second signal includes

second timing information based on a second symbol clock (down stream bar codes were

encoded to include the downstream chip clock so that all the RUs could synchronize to the CU

master chip clock, paragraph [0004], page 1, lines 5-7) and second data having a second FEC

alignment (data frames are broken down into packets and sent downstream in a continuous

stream after FEC encoding, paragraph [0005], page 1, lines 3-6); and

a synchronization element adapted to synchronize the first symbol clock and the second

symbol clock (synchronizes the downstream and the upstream clocks, paragraph [0080], page 7,

lines 1-2);

wherein at least one of the first transmitter and the second transmitter is adapted to

transmit calibration information relating to a difference between the first FEC alignment and the

second FEC alignment (Fig 10, 320; Fig.11, 360) to the one or more remote devices.

Regarding Claims 6, 16 and 17, Grimwood et al. discloses a method (method, Title, line 1) and

apparatus (Fig. 6 CU, CMTS) of claim 15, further including a calibration element adapted to

generate the calibration information by comparing the first FEC alignment to a reference FEC

alignment (Figs. 9, 10, Table 1, 2) and by comparing the second FEC alignment to the reference

alignment (Figs. 9, 10, Table 1, 2).

Regarding Claims 2, 4, 8, 10, 13 and 18, Grimwood et al. discloses a method (method, Title,

line 1) and apparatus (Fig. 6 CU, CMTS) of claim 15, wherein the first transmitter transmits a

notification message (Fig. 6, 262, CMTS sends message to RU; messages normally sent between

the CU and the RU frames, paragraph [0014], page 2, lines 5-8) to the one or more remote

devices indicating that the first signal will be terminated prior to termination of transmission of

the first signal.

Regarding Claims 11, 14 and 19, Grimwood et al. discloses a method (method, Title, line 1)

and apparatus (Fig. 6 CU, CMTS) of claim 15, wherein the apparatus is a cable modem

termination system (CMTS) (Fig.6, CU is CMTS, paragraph [0106], page 11, line 1).

Citation of Pertinent Prior Art

2.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

Burns et al. (Patent No.: US 6,449,291 B1) discloses method and apparatus for time

synchronization in a communication system.

Gummalla et al. (Pub. No.: US 2002/0154655 A1) discloses system and method for

combining requests for data bandwidth by a data provider for transmission of data over an

asynchronous communication medium.

Pantelias (Pub. No.: US 2004/0100985 A1) discloses system and method for the reuse of

S-CDMA parameters to define TDMA minislot size.

Response to Arguments

3.   Applicant's arguments filed October 12, 2007 have been fully considered, but they are

not persuasive.

- In the remarks on pages 8 and 9 of the amendment, applicant contends

Grimwood et al. does not teach or suggest transmitting a second signal to

remote devices upon termination of transmission of the first signal to the

remote devices wherein the second signal includes timing information based

on the symbol clock. Further, that the central entity transmits two

downstream signals to one more remote device with the second transmission

occurring after the first transmission terminated and as such, claim 1 is not

anticipated. Applicant therefore requests that rejection of claim 1 be

withdrawn. Further, claim 2 depends from and further limits claim 1 and, due

to the reasons set forth in claim 1 and claim 2, applicant requests that rejection

of claim 2 be withdrawn.

- The examiner respectfully disagrees and contends that Grimwood et al.

discloses in Fig. 7, 302 and 305, waiting and processing of (first) sync

message and second message with timebased conversion factor. Further, in

Fig. 6, 256, sync message includes sample of timestamp and CMTS sends

sync message, and transmitting timestamp data downstream from the CU

allow the RUs to align their upstream frame to the CU upstream frame,

paragraph [0082], page 7, lines 2-5. Therefore, claim 1 is anticipated and the

rejection will not be withdrawn. Thus, claim 2 rejection will also not be

withdrawn.

- In the remarks on page 10 of the amendment, applicant contends Grimwood et al. does not teach or suggest transmitting a second signal upon termination of the first signal and also, the features of claim 3. As such, claim 3 is not anticipated. Applicant therefore requests that rejection of claim 3 be withdrawn. Further, claim 4 depends from and further limits claim 3 and, due to the reasons set forth in claim 3 and claim 4, applicant requests that rejection of claim 4 be withdrawn.

- The examiner respectfully disagrees and contends that Grimwood et al. discloses in Fig. 7, 302 and 305, waiting and processing of (first) sync message and second message with timebased conversion factor. Therefore, claim 3 is anticipated and the rejection will not be withdrawn. Further, claim 4 rejection will also not be withdrawn.

- In the remarks on pages 11 and 12 of the amendment, applicant contends that Grimwood et al. does not teach or suggest transmitting calibration information relating to a difference between the first FEC alignment and the second FEC alignment to one or more remote devices and transmitting a second signal to one or more remote devices upon termination of transmission of the first signal to one or more remote devices as required by claim 5. Further, claim 5 is not anticipated and applicant requests that rejection of claim 5 be withdrawn. Additionally, claims 6-8 depends from and further limit claim 5

and, due to the reasons set forth in claim 5 and claims 6-8, applicant requests

that rejection of claims 6-8 be withdrawn.

- The examiner respectfully disagrees and contends that Grimwood et al.

discloses data frames are broken down into packets and sent downstream in a

continuous stream after FEC encoding, paragraph [0005], page 1, lines 3-6.

Also, in Fig. 11, timestamp with the precise arithmetic equation is used to

calculate the starting position of an adjustment value for the FEC frames

between insertions and the calculation of the number of bytes in the FEC

frames, paragraph [0030], page 3. Further, in Fig. 7, 302 and 305, waiting and

processing of (first) sync message and second message with timebased

conversion factor. Therefore, claim 5 is anticipated and the rejection will not

be withdrawn. Thus, the rejections to claims 6-8 will also not be withdrawn.

- In remarks of pages 12 and 13 of the amendment, applicant contends that

Grimwood et al. does not teach or suggest an apparatus comprising a second

transmitter adapted to transmit a second signal to the one of more remote

devices in response to the first transmitter terminating wherein the second

signal timing information based on a second symbol clock. Further, claim 9 is

not anticipated and applicant request that the rejection of claim 9 be

withdrawn. Additionally, claims 10-11 depend from and limit claim 9 and

applicant requests the rejection of claims 10-11 be withdrawn.

- The examiner respectfully disagrees and contends that Grimwood et al. discloses in Fig. 13, a second transmitter, SCDMA RU transmitter transmitting encoded bar codes which included chip clock so that all the RUs synchronize to the CU master chip clock, paragraph [0004], page 1, lines 5-7. Therefore, claim 9 is anticipated and the rejection will not be withdrawn. Thus, the rejection of claims 10-11 will also not be withdrawn.

- In remarks on page 14 of the amendment, applicant contends that Grimwood et al. does not teach or suggest an apparatus having two transmitters wherein the second transmitter transmits a second signal to a remote device if and when the first transmitter terminates transmission of the first signal, and where second signal includes second timing information based on a second symbol clock and second data having a second FEC alignment that is synchronized with the first FEC alignment. Further, claim 12 is not anticipated and applicant requests that the rejection of claim 12 be withdrawn. Additionally, claims 13-14 depend from and further limit claim 12 and applicant requests the rejection of claims 13-14 be withdrawn.

- The examiner respectfully disagrees and contends that Grimwood et al. discloses a first transmitter intended to operate in the CU upstream or downstream, paragraph [0220], page 22, lines 7-9, and in Fig. 13, a second transmitter, SCDMA RU transmitter transmitting encoded bar codes which included chip clock so that all the RUs synchronize to the CU master chip

clock, paragraph [0004], page 1, lines 5-7. Wherein, data frames are broken

down into packets and sent downstream in a continuous stream after the FEC

encoding, paragraph [0005], page 1, lines 3-6. Therefore, claim 12 is

anticipated and the rejection will not be withdrawn. Thus, the rejection of

claims 13-14 will also not be withdrawn.

-      In remarks on pages 15 and 16 of the amendment, applicant contends that

Grimwood et al. does not teach or suggest an apparatus comprising two

transmitters where a second transmitter adapted to transmit a second signal to

the one or more remote devices in response to the first transmitter terminating

transmission of the first signal where in the second signal includes second

timing information based on a second symbol clock and second data having a

second FEC alignment that is synchronized with the first FEC alignment, and

wherein at least one of the first transmitter and the second transmitter is

adapted to transmit calibration information relating to a difference between

the first FEC alignment and the second FEC alignment to the one or more

remote devices. Further, claim 15 is not anticipated and applicant requests the

rejection of claim 15 be withdrawn. Additionally, claims 16-19 depend from

and further limit claim 15 and applicant requests the rejection of claims 16-19

be withdrawn.

-      The examiner respectfully disagrees and contends that Grimwood et al.

discloses a first transmitter intended to operate in the CU upstream or

downstream, paragraph [0220], page 22, lines 7-9, and in Fig. 13, a second

transmitter, SCDMA RU transmitter transmitting encoded bar codes which

included chip clock so that all the RUs synchronize to the CU master chip

clock, paragraph [0004], page 1, lines 5-7. Wherein, data frames are broken

down into packets and sent downstream in a continuous stream after the FEC

encoding, paragraph [0005], page 1, lines 3-6. Also, in Fig. 11, timestamp

with the precise arithmetic equation is used to calculate the starting position of

an adjustment value for the FEC frames between insertions and the calculation

of the number of bytes in the FEC frames, paragraph [0030], page

3.Therefore, claim 15 is anticipated and the rejection will not be withdrawn.

Thus, the rejection of claims 16-19 will also not be withdrawn.

- In remarks on page 17 of the amendment, applicant requests that all the

  objections and rejections be reconsidered and withdrawn and the application is

  in condition for allowance.

- The examiner respectfully contends that all the objections and rejections were

  considered and would not be withdrawn. The application in not in condition

  for allowance.

Conclusion

4.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Leon Andrews whose telephone number is (571) 270-1801. The

examiner can normally be reached on Monday through Friday 7:30 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Rao S. Seema can be reached on (571) 272-3174. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

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like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LA/la
July 2, 2007

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